



CHARTS

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Overview

- Application for creating and sharing musical charts / lead sheets / backing tracks
- Allow users to edit harmony & rhythm of a song to be played back by virtual rhythm section
 - *Midi playback*
 - *Export to multiple formats*
- Familiar interface layout for users of existing musical notation software
- Desktop and Web based

Stakeholders

■ Musicians

- *Tool for practicing performance / improvisation*
- *Learn new music*
- *Songwriting*
- *Easily share charts with other musicians*
- *Learn more about music theory*

Requirements

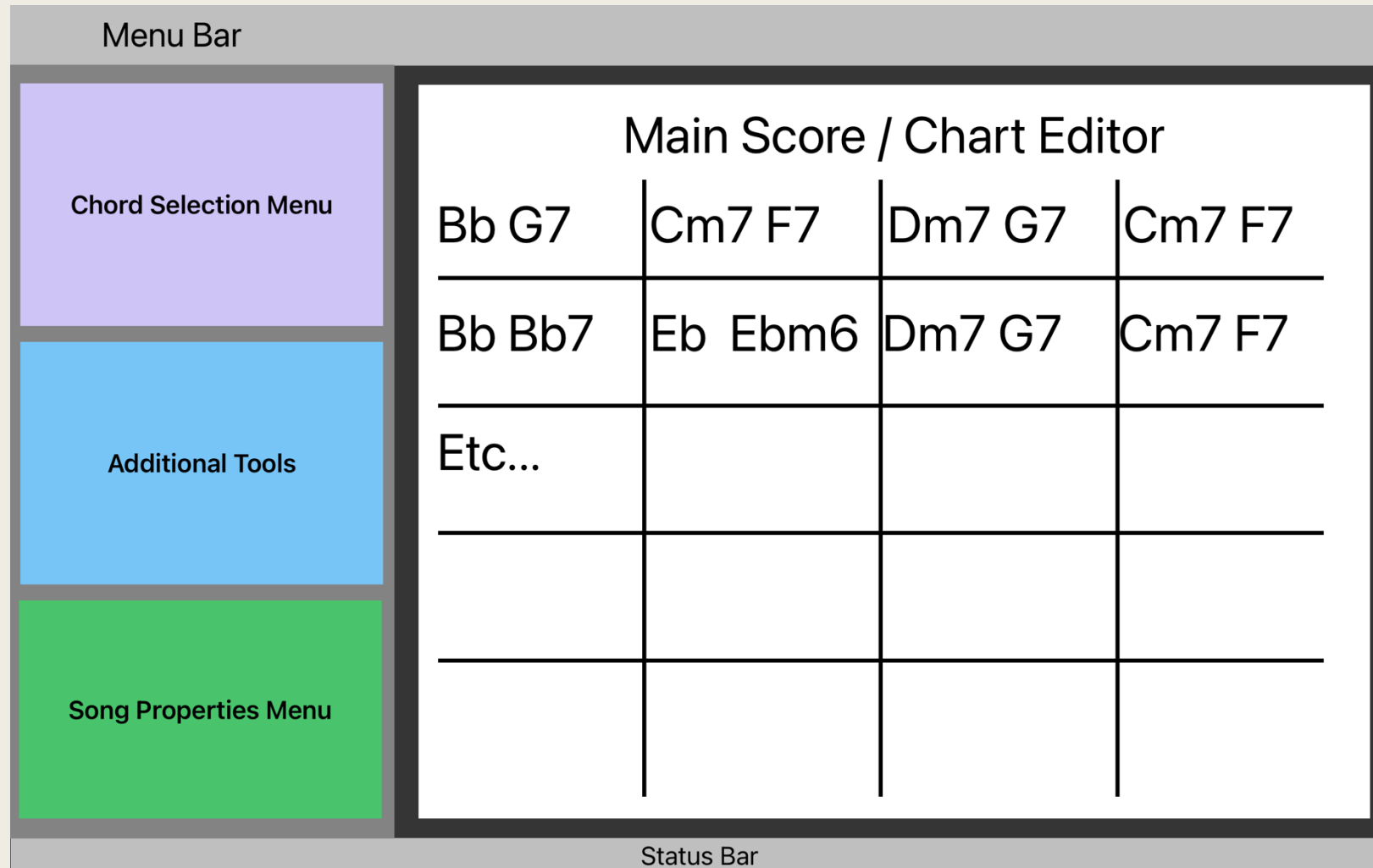
Functional

- Allow users to create, playback, and share song charts / backing tracks
 - *Sharing through online DB with login system*
- In-depth rhythmic & harmonic editing system with preset styles
 - *Multiple methods for chord input (Nashville system, bass note, chord suggestions, build-a-chord)*
 - *Custom rhythm entry for orchestrated hits*
 - *Easily change key, meter, tempo, swing, etc.*
- Support for custom soundfonts & exporting to multiple formats (PDF, MIDI)
- Include tutorials for new users and those looking to learn about music theory

Non-Functional

- Simple, intuitive UI layout with easy-to-follow tutorials
- Quick, responsive interface & playback system
 - *Least lag / latency possible*
 - *Stutters during playback are unacceptable*
- Secure web integration
 - *Unintrusive login system – basic email signup to authenticate for sharing*

Rough UI Mockup



Development Process

- Agile

- *Develop and test each aspect of the software individually, then integrate*
- *Refine implementation of requirements according to time constraints*
- *Can fall back to Waterfall process if things aren't moving quickly enough*

Prospective Timeline

- Early October:
 - *Finalize requirements*
 - *UI design & front-end implementation*
- Late October:
 - *Front-end refinements*
 - *Client-side back-end implementation*
- Early November:
 - *Finish client-side application*
 - *Client-side app testing*
 - *Server-side back-end implementation*
- Late November:
 - *Finish server-side*
 - *Integration testing*

Risk Analysis

- Time constraints
 - *Work in order from most critical components to least*
- Potential technical hurdles
 - *Implementing some features may introduce complications*
 - Chord suggestion algorithm
 - Support for exporting to different formats
 - Real-time playback performance
- Unfamiliarity / Inexperience
 - *May need more time than expected to learn new systems*

Backup Plan

- Potential Issues

- *Networking / Login*
 - Create, at the least, a minimal implementation of the functional requirements without login/sharing functionality
- *Playback performance*
 - Focus on creation of charts and ability to export to formats that can be read by other software
- *Cross-platform support*
 - Focus on developing desktop application first and foremost